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(54) GROWTH METHOD OF CdTe ON Si SUBSTRATE COPYRIGHT: (C)1996,JPO  
BY MBE METHOD

(57) Abstract:

PURPOSE: To make high quality CdTe crystal grow on an Si substrate by an MBE method regardless of the construction of a growth apparatus and a cleaning method.

CONSTITUTION: An Si substrate is washed and introduced into a growth apparatus and held in an extra-high vacuum at 500°C for several hours. After that, the substrate is held at 850°C for 5 minutes as the cleaning 1 of Si for removing a surface oxide film. Then the substrate temperature is lowered to 750°C to irradiate it with As+Cd 2 for 5 minutes. Then irradiation with As is discontinued and, while irradiated with Cd only 3, the substrate temperature is lowered. After the substrate temperature is lowered to 180°C, the (1st) growth 4 of CdTe is started. 1 minute after the start of the CdTe growth, the irradiation 3 with Cd is discontinued. After the (1st) growth 4 of CdTe is continued for 30 minutes, the substrate is held (anneal 4) at 340°C for 10 minutes and the (2nd) growth 5 of CdTe is started again at 290°C.

